

*TRAFFIC SPEED REPORT*  
*NO. 66*

*MAY 1959*  
*NO. 10*

*Joint*  
*Highway*  
*Research*  
*Project*

*PURDUE UNIVERSITY*  
*LAFAYETTE INDIANA*

*by*

*D.F. PETTY*



Progress Report

TRAFFIC SPEED REPORT NO. 66

TO: K. B. Woods, Director  
Joint Highway Research Project

FROM: H. L. Michael, Assistant Director  
Joint Highway Research Project

J 21, 1959

File: 8-3-3  
Project: 8 96-107

The attached Traffic Speed Report No. 66 has been prepared by Mr. Donald F. Petty, Research Assistant on our staff, under the direction of Prof. H. L. Michael.

This report presents the analysis and data for the winter season of 1959. The Project has conducted similar studies at the same locations semi-annually for the past twenty years. Copies of this report will be distributed as usual to the Indiana State Police, the Indiana Office of Traffic Safety, and the Bureau of Public Roads. The report is submitted for the record.

Respectfully submitted,

*H. L. Michael*

H. L. Michael, Secretary

HLH:ac

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## TRAFFIC SPEED REPORT NO. 66

This report covers spot speed observations made from December, 1958, through March, 1959. The data were collected by the writer. All observations were made of free-moving vehicles on level tangent sections of rural highways. The locations of the observations were as follows:

1. U.S. 52 - 1.0 miles South of S. Jet. S.R. 28 (Dual Lanes)
2. U.S. 52 - 1.0 miles West of Klondike (Dual Lanes)
3. U.S. 52 - 2.2 miles Northwest of Templeton (2 Lane)
4. U.S. 31 - 7.2 miles North of Parrisburg (2 Lane)
5. S.R. 35 - .7 miles South of Americus (2 Lane)
6. U.S. 41 - 1.0 miles North of Boswell (2 Lane)

The speed observations for this study were made with an Electro-Matic Radar Speed Meter. The meter was concealed as part of a rural mailbox which was placed approximately two feet from the edge of the pavement. It was directed along the highway at a small angle with respect to the direction of traffic so that it was not necessary to apply an angle correction to the readings.

Radar equipment will not operate properly if the operating voltage is more than  $1/2$  volt low or 1 volt high. The voltage, therefore, was checked periodically in the field with a voltmeter and maintained within the desired range. The radar equipment was also maintained in correct calibration by checking the registered speed with a 60 MPH tuning fork.

The observer concealed himself from the traffic as far from the highway as local conditions required. This was possible by using a 150 foot extension cable between the meter reading unit on which the











TABLE I

SUMMARY OF SPOT SPEED OBSERVATIONS  
ON INDIANA HIGHWAYS

(Free-Moving Vehicles on Level, Tangent Sections)

		Passenger Cars				Trucks		
		Ind Mean	Non-Ind Mean	All Mean	All 85 per	Light Mean	Heavy Mean	All Mean
Two-lane Highways	July '55	53.8	55.7	54.5	64.8	46.2	45.5	45.6
	Feb. '56	54.9	58.0	55.9	63.2	47.1	43.2	44.4
	Aug. '56	55.0	56.3	55.5	63.4	50.6	45.5	46.6
	May '57	55.6	59.1	56.9	64.0	50.2	44.8	46.1
	Aug. '57	55.5	56.7	55.9	62.1	51.7	45.8	47.3
	Aug. '58	54.3	56.3	55.0	61.7	53.0	46.3	47.8
	Mar. '59	55.5	57.7	56.1	61.9	50.4	45.4	46.3
Four-lane Highways	July '55	54.5	56.6	55.2	63.7	47.5	43.9	44.8
	Feb. '56	58.1	60.1	58.7	65.7	47.8	45.2	45.8
	Aug. '56	57.4	58.8	58.2	66.8	49.6	46.0	47.4
	May '57	59.9	63.6	61.0	69.0	52.2	46.0	47.9
	Aug. '57	57.5	59.9	58.5	64.8	52.0	46.6	47.6
	Aug. '58	58.0	59.6	58.7	65.0	54.3	49.0	50.0
	Mar. '59	58.2	61.7	59.0	64.9	53.6	47.0	48.4
All Highways	July '55	54.1	56.6	55.2	64.3	46.9	44.7	45.2
	Feb. '56	56.0	58.6	56.8	63.8	47.3	44.0	44.9
	Aug. '56	55.7	57.3	56.4	64.5	50.2	45.6	46.9
	May '57	57.2	60.3	58.3	66.0	50.9	45.2	46.6
	Aug. '57	56.2	58.3	56.9	63.2	51.8	46.1	47.4
	Mar. '59	56.6	59.0	57.2	63.1	51.5	45.9	47.0









TABLE III SPEED DATA

Station #2 - 1 Mile West of Klondike on U. S. 52

Surface 4 Lane Divided. 24' Portland Cement Concrete Weather Cloudy & Dry  
 This Observation Last Previous Observation (Speed Report No. )  
 Date December 30, 1958 Date August 12, 1958  
 Time 1:30 P.M. - 4:05 P.M. Time 2:40 P.M. - 5:51 P.M.

PASSENGER CARS				TRUCKS						BUSES						
				Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more		All		
OBSERVATION				Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	
All Vehicles	No. of Vehicles Obs.	376	440	241	57.4	57.1	59.2	61.8	51.3	48.6	26	55.9	53.7	100	78	--
	Ave. Speed (m.p.h.)	58.0	58.4	97.1	95.3	98.2	98.3	97.4	84.3	73.4	100.0	80.6	80.0	50.1	46.6	--
	Max. Speed (m.p.h.)	97.6	96.0	86.7	87.0	87.8	82.5	82.5	64.3	37.6	73.1	71.0	62.0	24.4	--	--
	Min. Speed (m.p.h.)	89.4	90.0	69.3	67.8	78.5	82.5	82.5	29.4	18.3	46.2	41.9	25.0	9.0	--	--
	State or Type	72.6	71.8	41.9	35.3	49.6	52.5	52.5	11.1	10.1	30.8	32.2	6.0	1.3	--	--
	State or Type	44.7	40.0	11.6	12.8	17.0	20.8	20.8	4.0	4.6	19.2	12.9	0	1.3	--	--
	State or Type	13.6	15.0	1.7	1.9	8.2	9.2	9.2	0.8	.9	3.8	3.2	0	--	--	--
BOUND	No. of Vehicles Obs.	199	203	121	158	78	45	45	52	46	9	18	43	28	--	--
	Ave. Speed (m.p.h.)	57.8	59.0	57.1	58.3	59.0	61.6	61.6	48.4	50.0	52.4	53.2	47.6	48.0	--	--
	Max. Speed (m.p.h.)	--	80	76	77	78	80	80	--	71	64	71	60	56	--	--
	Min. Speed (m.p.h.)	--	0.5	--	--	--	--	--	--	5000	--	--	--	--	--	--
	State or Type	--	36	36	36	41	44	44	--	34	45	34	29	41	--	--
	State or Type	--	Ind	--	--	--	--	--	--	5000	--	--	--	--	--	--
	State or Type	190	237	120	162	57	75	75	74	63	17	13	57	50	--	--
BOUND	No. of Vehicles Obs.	58.3	58.0	57.7	56.0	59.5	62.1	62.1	53.3	47.6	57.7	54.5	52.0	45.8	--	--
	Ave. Speed (m.p.h.)	--	79	73	78	74	79	79	--	68	77	68	63	57	--	--
	Max. Speed (m.p.h.)	--	0.5	--	--	--	--	--	--	5000	--	--	--	--	--	--
	Min. Speed (m.p.h.)	--	38	37	38	42	39	39	--	29	45	37	36	29	--	--
	State or Type	--	Ind	--	--	--	--	--	--	5000	--	--	--	--	--	--
	State or Type	--	Ind	--	--	--	--	--	--	5000	--	--	--	--	--	--
	State or Type	--	Ind	--	--	--	--	--	--	5000	--	--	--	--	--	--



TABLE IV SPEED DATA

Station #3 - 2.0 Miles North of Templeton on U. S. 52

Surface 2 Lane 22' Bituminous Weather Clear, Sunny, Good  
 This Observation Last Previous Observation (Speed Report No. )  
 Date January 8, 1959 Date August 6, 1958  
 Time 2:45 - 4:30 P.M. Time 11:04 A.M. - 1:13 P.M.

PASSENGER CARS										TRUCKS						BUSES	



TABLE V SPEED DATA

Station #4 - 8.0 Miles North of Perryburg on U. S. 31

Surface 2 Lane 22' Bituminous

Weather Cloudy & Dry

This Observation

Last Previous Observation (Speed Report No. )

Date March 30, 1959

Date August 5, 1958

Time 12:35 P.M. - 3:00 P.M.

Time 12:10 P.M. - 3:04 P.M.

OBSERVATION				PASSENGER CARS						TRUCKS						BUSES	
				All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more		All	
All Vehicles	No. of Vehicles Obs.	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
	Ave. Speed (m.p.h.)	380	306	296	238	84	68	56.3	58.4	119	83	37	26	82	57	--	--
	Max. Speed (m.p.h.)	54.4	56.0	53.8	55.3	94.0	98.5	94.0	98.5	48.6	47.9	52.5	50.6	46.9	46.6	--	--
	Min. Speed (m.p.h.)	90.0	93.8	88.9	92.4	85.7	92.7	85.7	92.7	70.6	66.3	83.8	80.8	64.6	59.7	--	--
	State or Type	45 m.p.h.	82.4	73.6	79.4	73.6	79.4	73.6	79.4	42.9	45.8	67.6	65.4	31.7	36.8	--	--
	State or Type	50 m.p.h.	60.1	45.3	57.6	64.3	69.1	64.3	69.1	20.2	13.3	35.1	26.9	13.4	7.0	--	--
BOUND	No. of Vehicles Obs.	197	167	161	128	36	39	57.3	57.6	7.6	6.0	18.9	11.5	2.4	3.5	--	--
	Ave. Speed (m.p.h.)	54.8	57.2	54.2	57.1	70	80	70	80	0.8	0	0	0	1.2	0	--	--
	Max. Speed (m.p.h.)	80	80	84	76	70	80	70	80	0	0	0	0	0	0	--	--
	Min. Speed (m.p.h.)	40	40	32	40	41	40	41	40	0	0	0	0	0	0	--	--
	State or Type	Ind.	Ind.	Ind.	Ind.	Ind.	Ind.	Ind.	Ind.	over 5000	over 5000	over 5000	over 5000	over 5000	over 5000	--	--
	State or Type	183	139	135	110	48	29	55.6	57.7	68	46.9	20	15	48	25	--	--
BOUND	No. of Vehicles Obs.	53.9	54.2	53.3	53.3	68	77	68	77	47.9	46.9	51.1	50.5	46.6	44.7	--	--
	Ave. Speed (m.p.h.)	77	77	90	65	68	77	68	77	62	62	64	62	69	59	--	--
	Max. Speed (m.p.h.)	Non-Ind.	Non-Ind.	Non-Ind.	Non-Ind.	Non-Ind.	Non-Ind.	Non-Ind.	Non-Ind.	over 5000	over 5000	over 5000	over 5000	over 5000	over 5000	--	--
	Min. Speed (m.p.h.)	34	34	32	34	38	48	38	48	38	38	38	38	30	36	--	--
	State or Type	Ind.	Ind.	Ind.	Ind.	Ind.	Ind.	Ind.	Ind.	over 5000	over 5000	over 5000	over 5000	over 5000	over 5000	--	--
	State or Type	183	139	135	110	48	29	55.6	57.7	68	46.9	20	15	48	25	--	--





TABLE VI SPEED DATA

Station #5- 1 Mile South of Americus on S. R. 25

Surface 2 Lane 22' Bituminous

Weather Sunny, Clear, & Dry

This Observation

Last Previous Observation (Speed Report No. )

Date March 18, 1959

Date August 12, 1958

Time 2:00 - 4:15 P.M.

Time 10:50 A.M. - 1:34 P.M.

				PASSENGER CARS						TRUCKS						BUSES	
				All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more		All	
OBSERVATION				Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All Vehicles	No. of Vehicles Obs.	404	351	318	337	86	14	55.9	46.9	95	150	26	34	69	116	—	—
	Ave. Speed (m.p.h.)	54.4	55.1	53.9	55.0	56.2	55.9	53.8	50.8	48.8	46.9	53.8	50.8	46.9	45.8	—	—
	Max. Speed (m.p.h.)	89.1	90.0	88.1	89.9	92.0	92.9	75.8	62.7	75.8	62.7	88.5	79.4	71.0	57.8	—	—
	Min. Speed (m.p.h.)	73.0	76.4	72.3	76.0	75.6	85.7	46.3	31.3	46.3	31.3	69.2	50.0	37.7	25.9	—	—
	State or Type	50.2	48.4	47.5	48.4	60.5	50.0	17.9	8.7	17.9	8.7	50.0	29.4	5.8	2.6	—	—
	State or Type	28.5	29.6	24.8	29.4	41.9	35.7	8.4	4.7	8.4	4.7	30.8	17.7	0	0.9	—	—
	State or Type	7.7	11.7	6.6	11.6	11.6	14.3	3.2	—	3.2	—	11.5	—	0	—	—	—
BOUND	No. of Vehicles Obs.	215	154	176	147	39	7	43	72	43	72	12	19	31	53	—	—
	Ave. Speed (m.p.h.)	53.7	55.6	53.1	55.4	56.5	60.6	49.4	45.7	49.4	45.7	57.5	48.3	46.3	44.7	—	—
	Max. Speed (m.p.h.)	—	82	70	82	73	76	—	63	—	63	70	63	58	58	—	—
	Min. Speed (m.p.h.)	—	34	37	34	40	50	—	36	—	36	45	39	35	36	—	—
	State or Type	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	State or Type	189	197	142	190	47	7	52	78	52	78	14	15	38	63	—	—
	State or Type	55.2	54.6	55.0	54.7	56.1	51.1	48.3	48.1	48.3	48.1	50.6	53.9	47.4	46.7	—	—
BOUND	No. of Vehicles Obs.	—	96	77	96	76	60	—	64	—	64	63	63	57	64	—	—
	Ave. Speed (m.p.h.)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Max. Speed (m.p.h.)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Min. Speed (m.p.h.)	—	33	38	33	34	44	—	35	—	35	30	42	33	35	—	—
State or Type		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



TABLE VII SPEED DATA

Station #6- 1.0 Mile North of Boswell on U. S. 41Surface 2 Lane 22' BituminousWeather Cloudy & Dry

This Observation

Last Previous Observation (Speed Report No.     )Date March 31, 1959

Date

Time 9:30 A.M. - 12:30 P.M.

Time

				PASSENGER CARS						TRUCKS						BUSES	
OBSERVATION				All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more		All	
				Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All Vehicles	No. of Vehicles Obs.	--	311	--	128	--	183	--	56.6	--	99	--	23	--	76	--	--
	Ave. Speed (m.p.h.)	--	56.5	--	56.2	--	56.6	--	96.17	--	45.1	--	48.0	--	44.2	--	--
	Exceeding	--	96.0	--	96.1	--	96.17	--		--	52.5	--	69.6	--	47.4	--	--
	50 m.p.h.	--	86.5	--	79.7	--	91.3	--		--	27.3	--	47.8	--	21.1	--	--
	55 m.p.h.	--	66.2	--	63.3	--	68.3	--		--	8.1	--	21.7	--	4.0	--	--
	60 m.p.h.	--	33.4	--	34.4	--	32.8	--		--	1.0	--	4.4	--	0	--	--
	65 m.p.h.	--	10.6	--	11.7	--	9.8	--		--	0	--	0	--	0	--	--
BOUND	No. of Vehicles Obs.	--	158	--	64	--	94	--	57.0	--	52	--	9	--	43	--	--
	Ave. Speed (m.p.h.)	--	57.1	--	57.5	--	57.0	--		--	44.0	--	45.7	--	44.1	--	--
	Max. Speed (m.p.h.)	--	78	--	78	--	70	--		--	55	--	51	--	55	--	--
	State or Type	--	Ind.	--		--		--		--	over 5000	--		--		--	--
	Min. Speed (m.p.h.)	--	12	--	42	--	42	--		--	36	--	36	--	36	--	--
	State or Type	--	Ind. & Non-Ind.	--		--		--		--	Less than 5000	--		--		--	--
	No. of Vehicles Obs.	--	153	--	64	--	89	--	56.1	--	47	--	14	--	33	--	--
BOUND	Ave. Speed (m.p.h.)	--	55.6	--	55.0	--	56.1	--		--	45.9	--	49.6	--	44.3	--	--
	Max. Speed (m.p.h.)	--	74	--	74	--	71	--		--	64	--	64	--	58	--	--
	State or Type	--	Ind.	--		--		--		--	over 5000	--		--		--	--
	Min. Speed (m.p.h.)	--	34	--	34	--	38	--		--	36	--	32	--	30	--	--
State or Type				--	Ind.	--		--		--	over 5000	--		--		--	



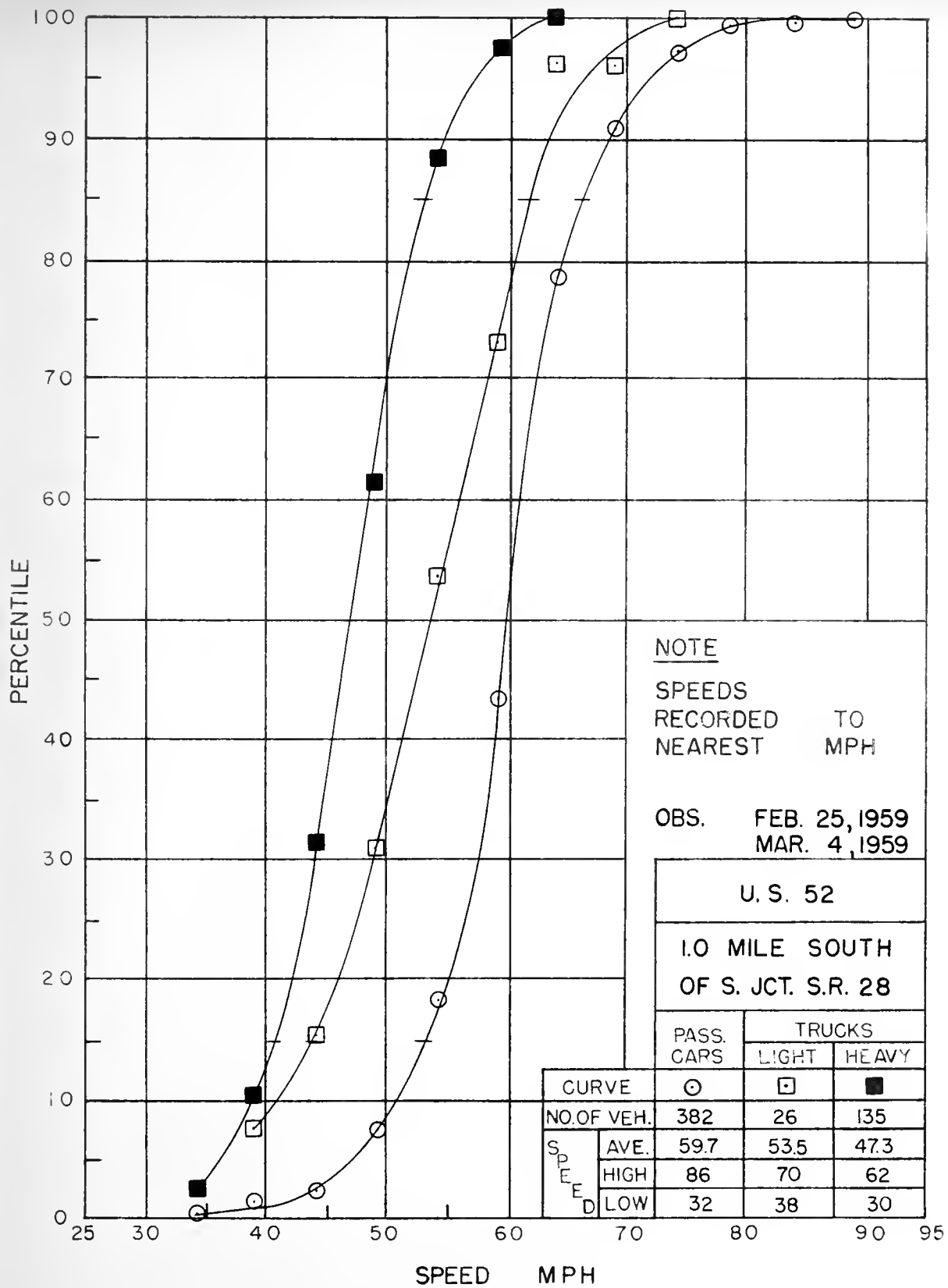


FIGURE 1



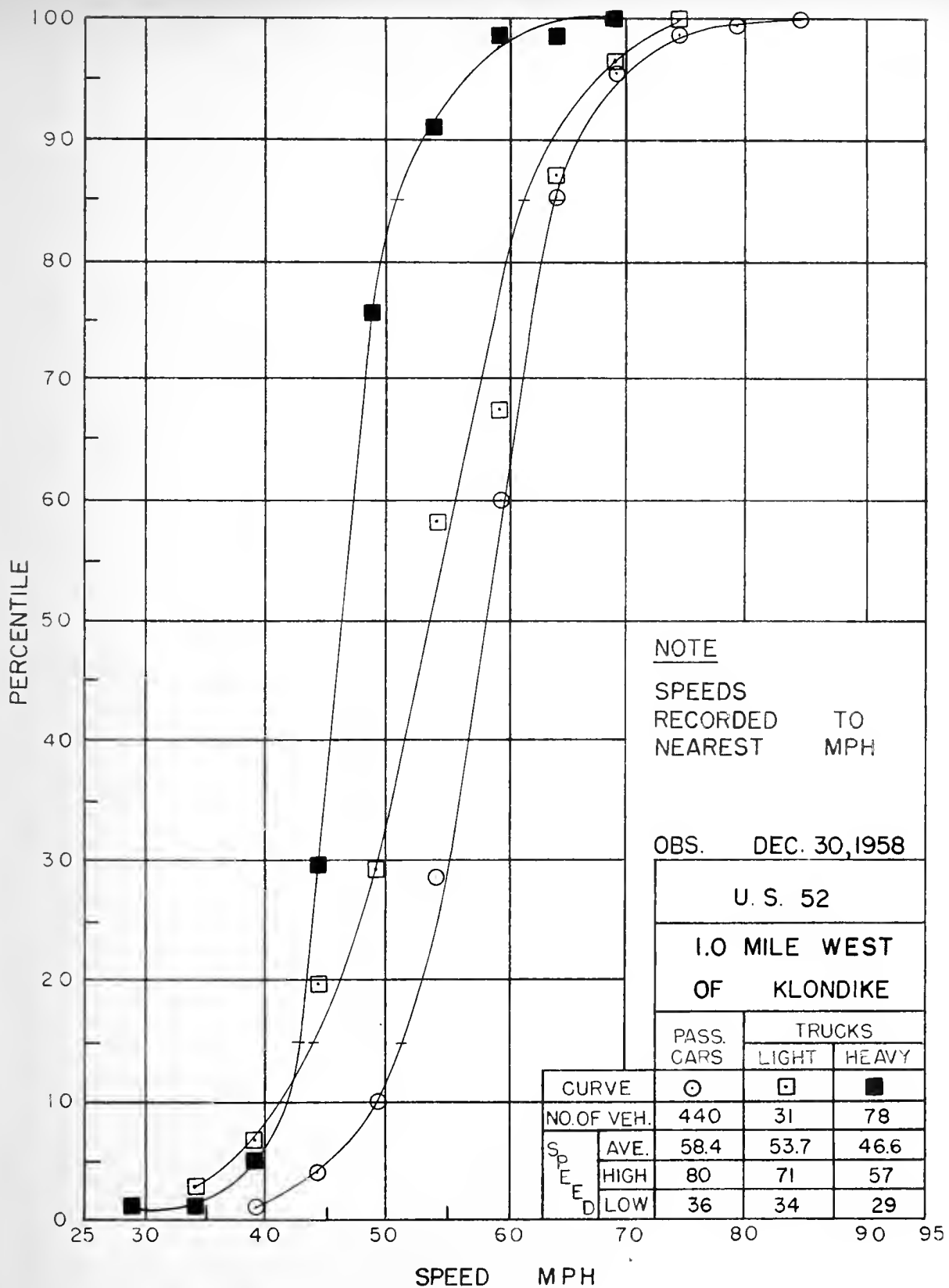


FIGURE 2





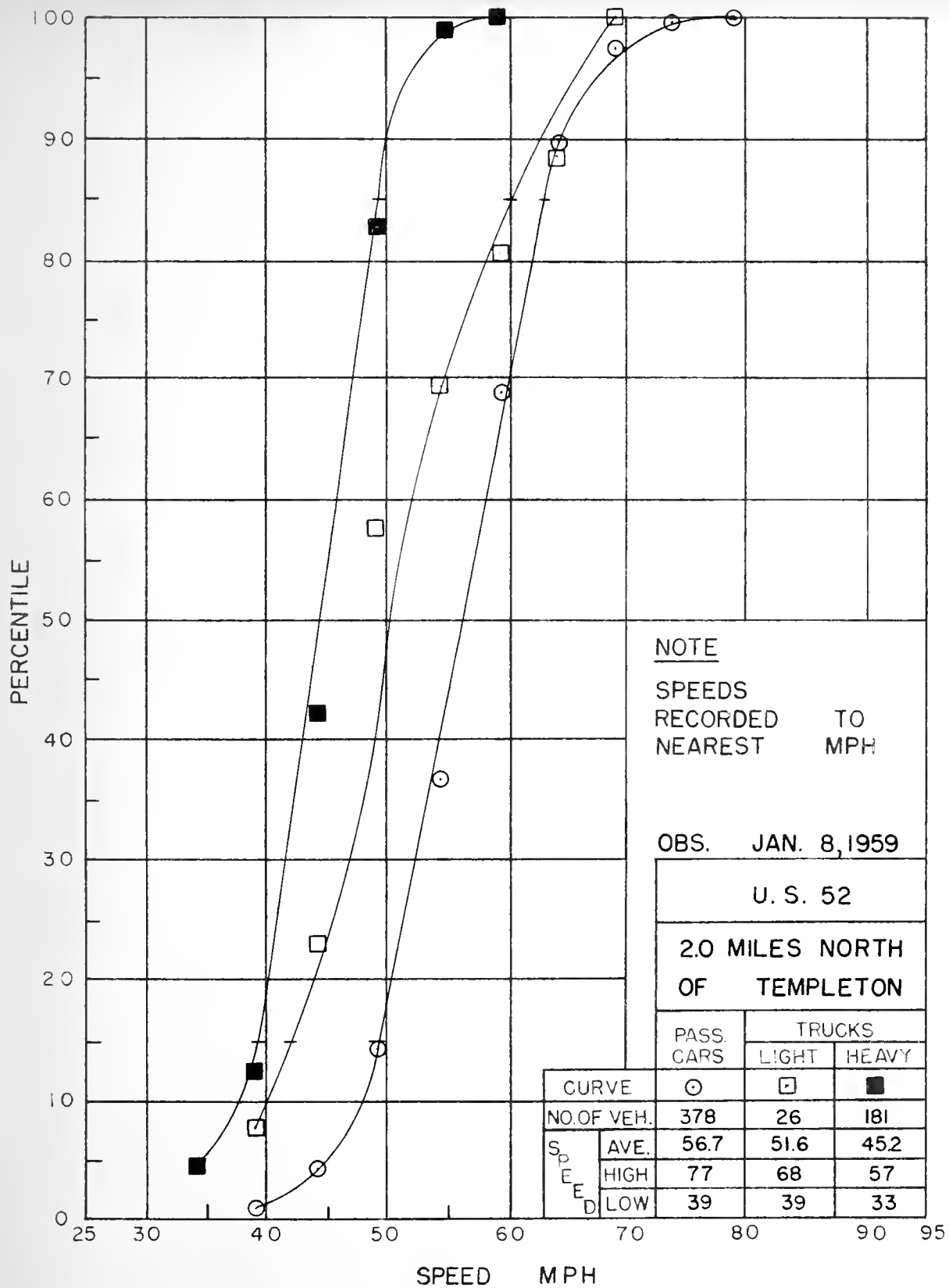


FIGURE 3



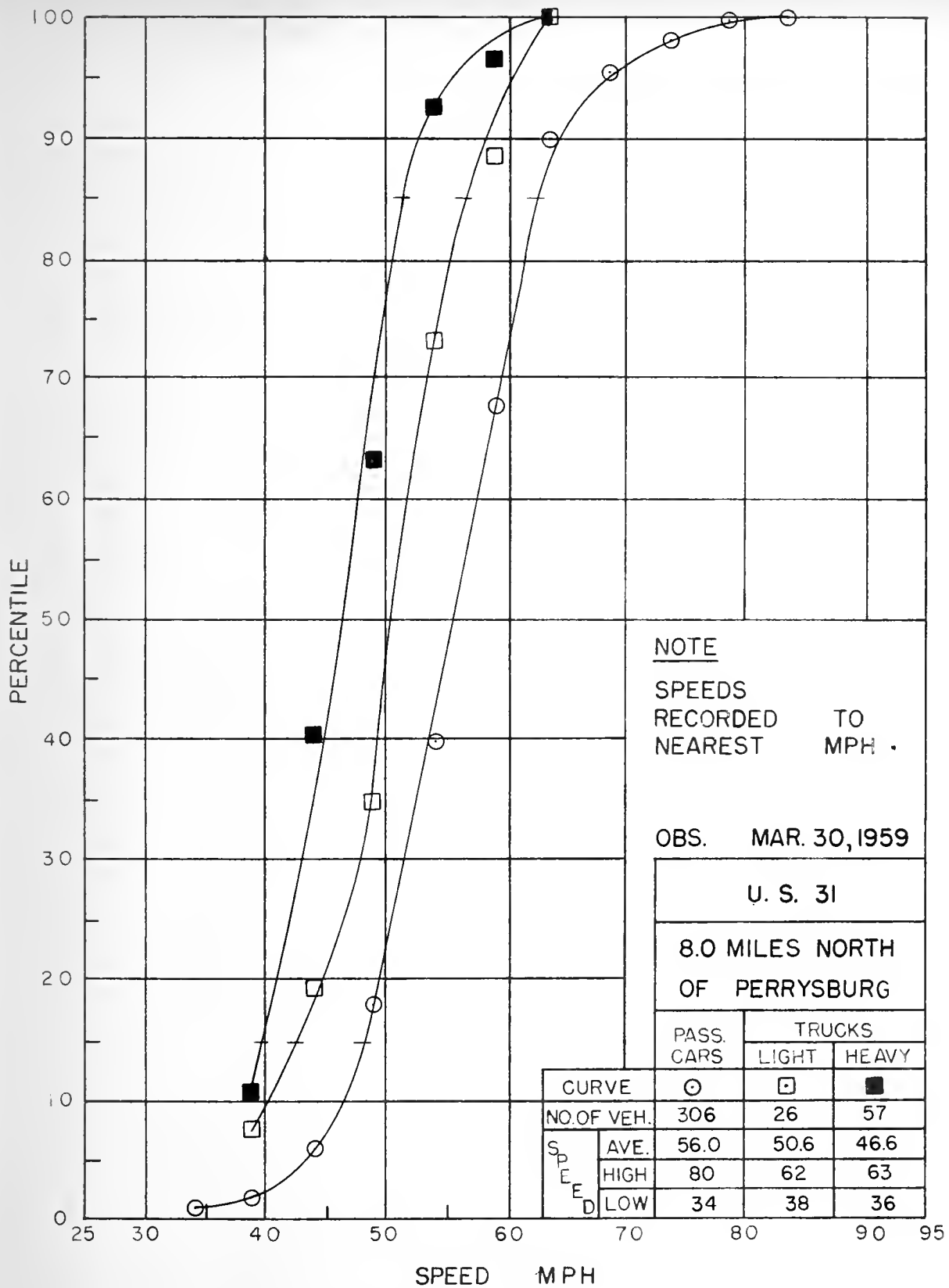


FIGURE 4



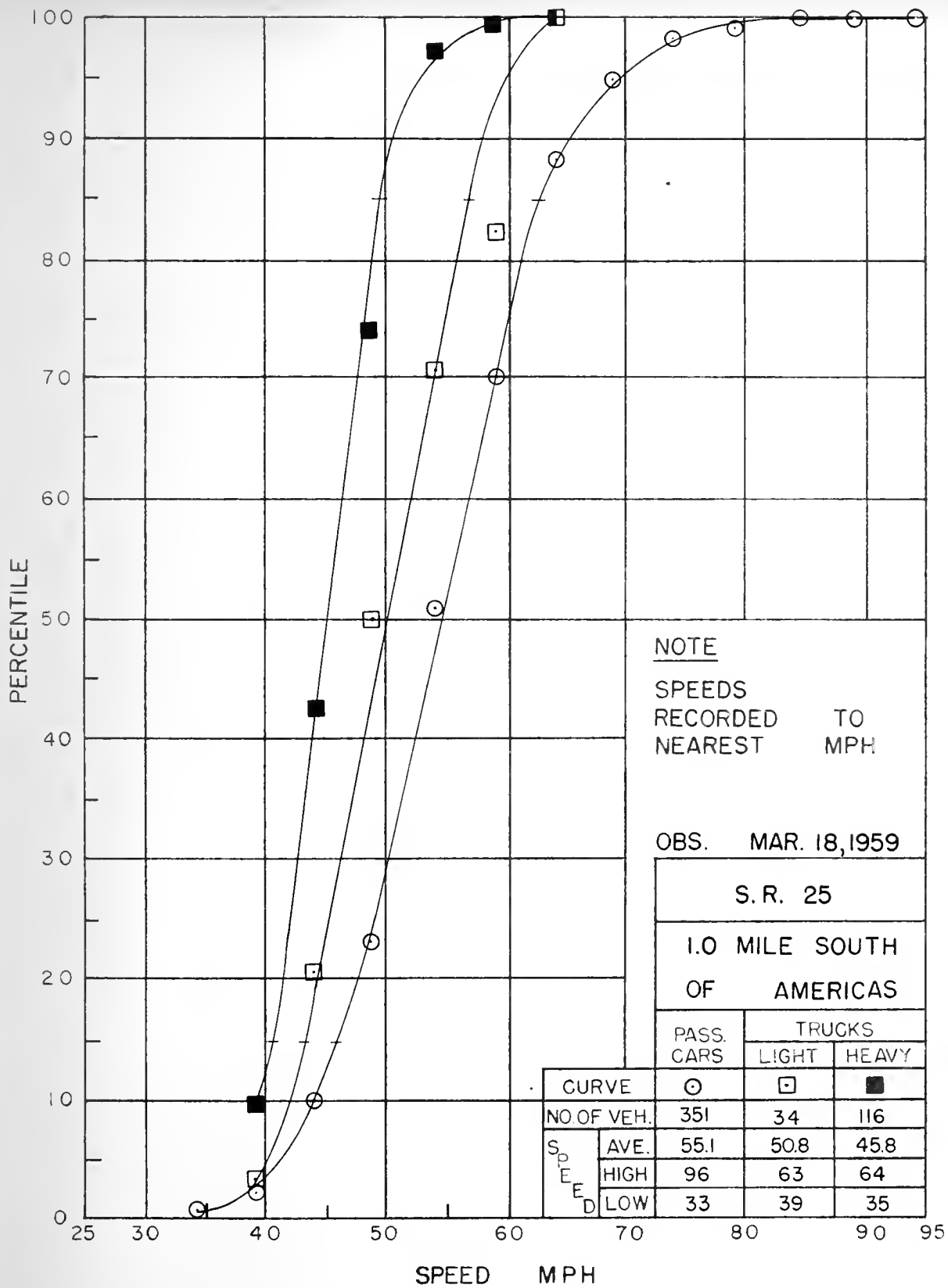


FIGURE 5



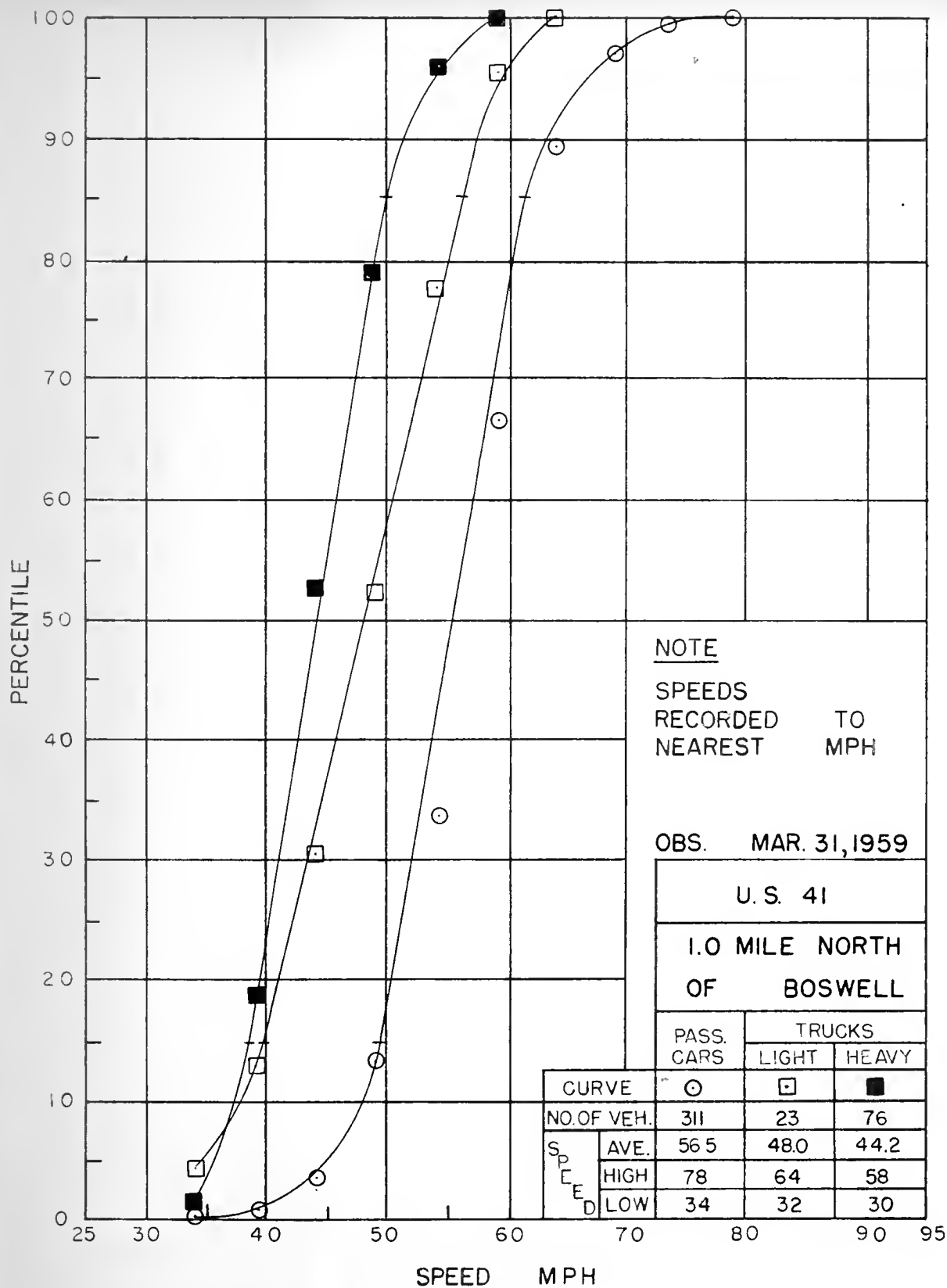


FIGURE 6





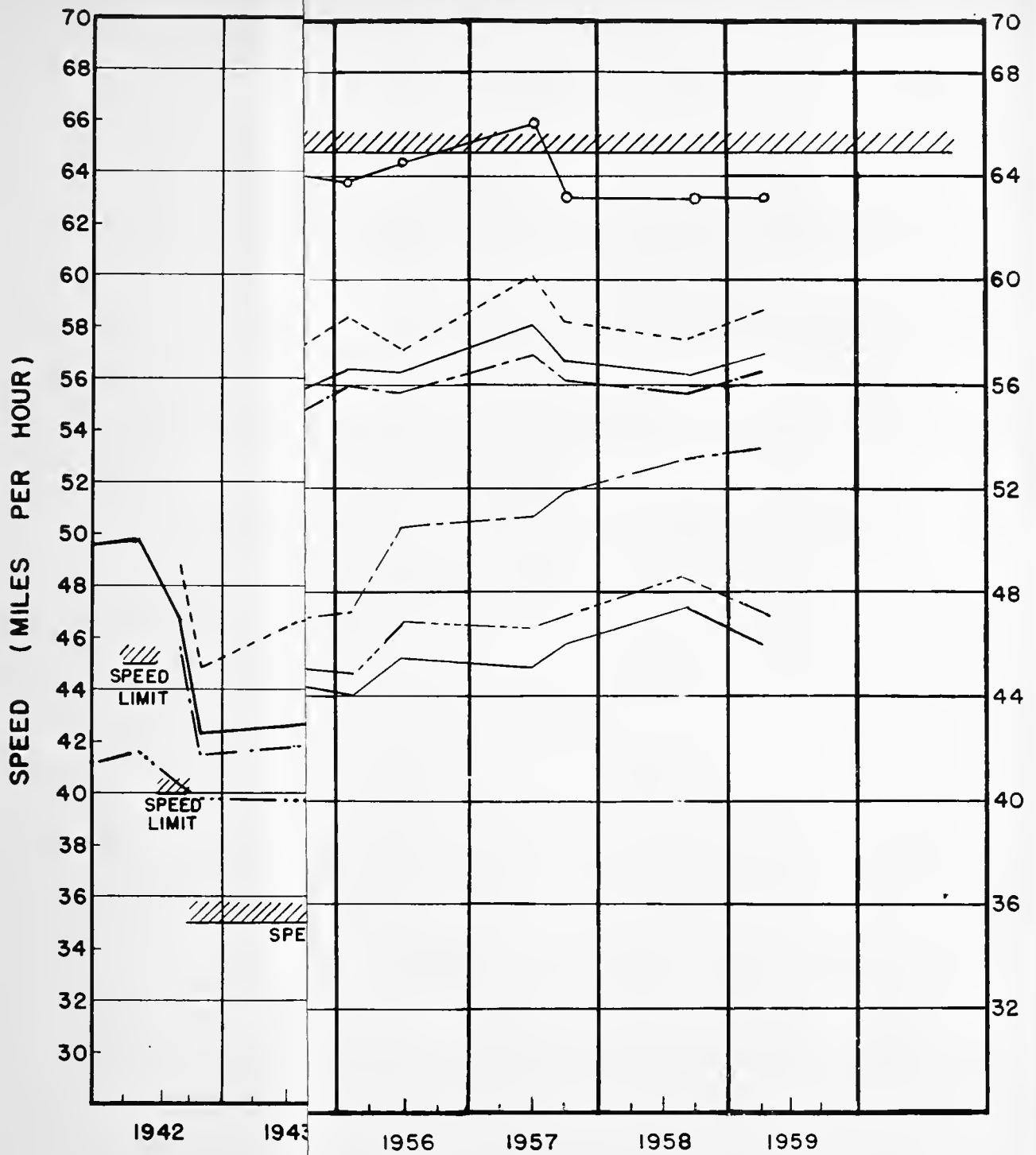
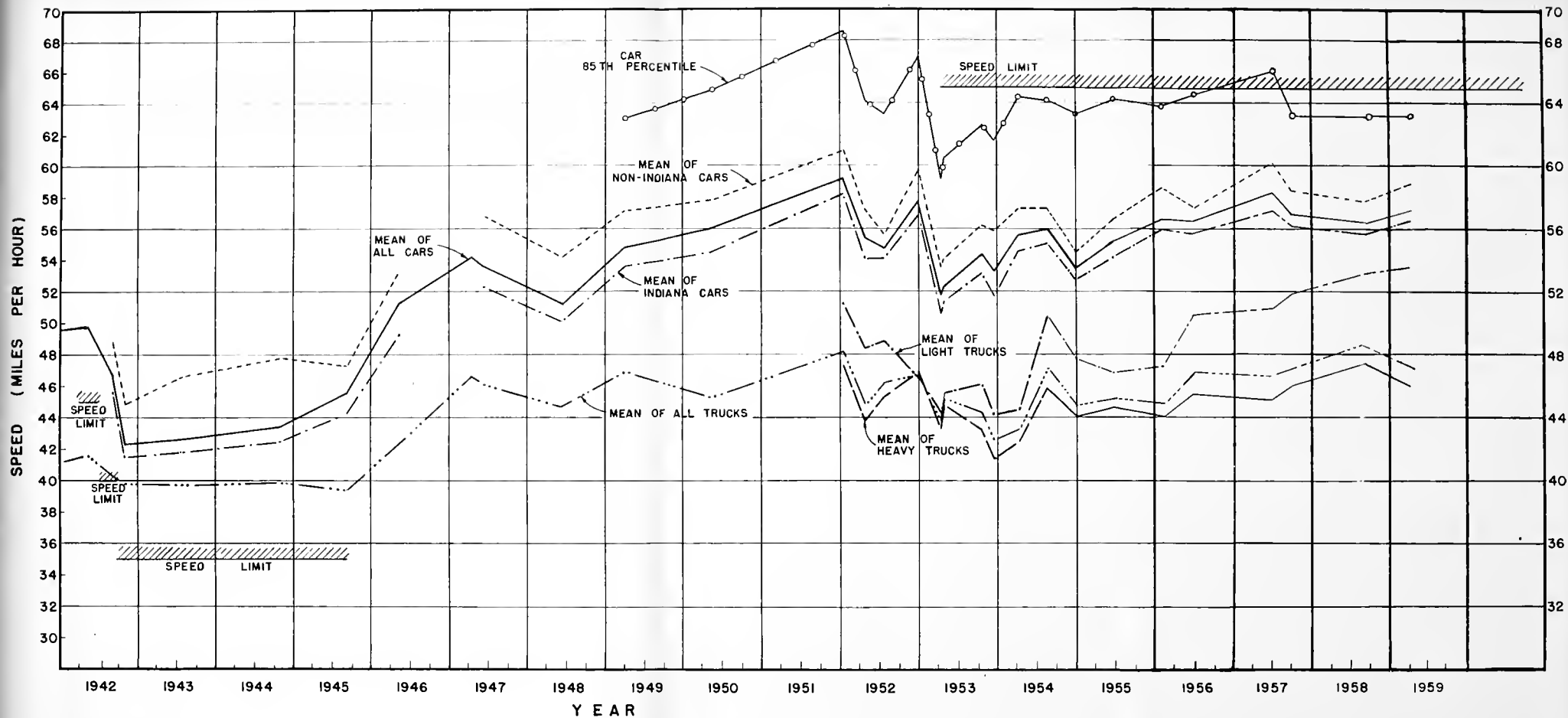


FIG. 7





INDIANA RURAL SPEED TRENDS 1942—1960

FIG. 7



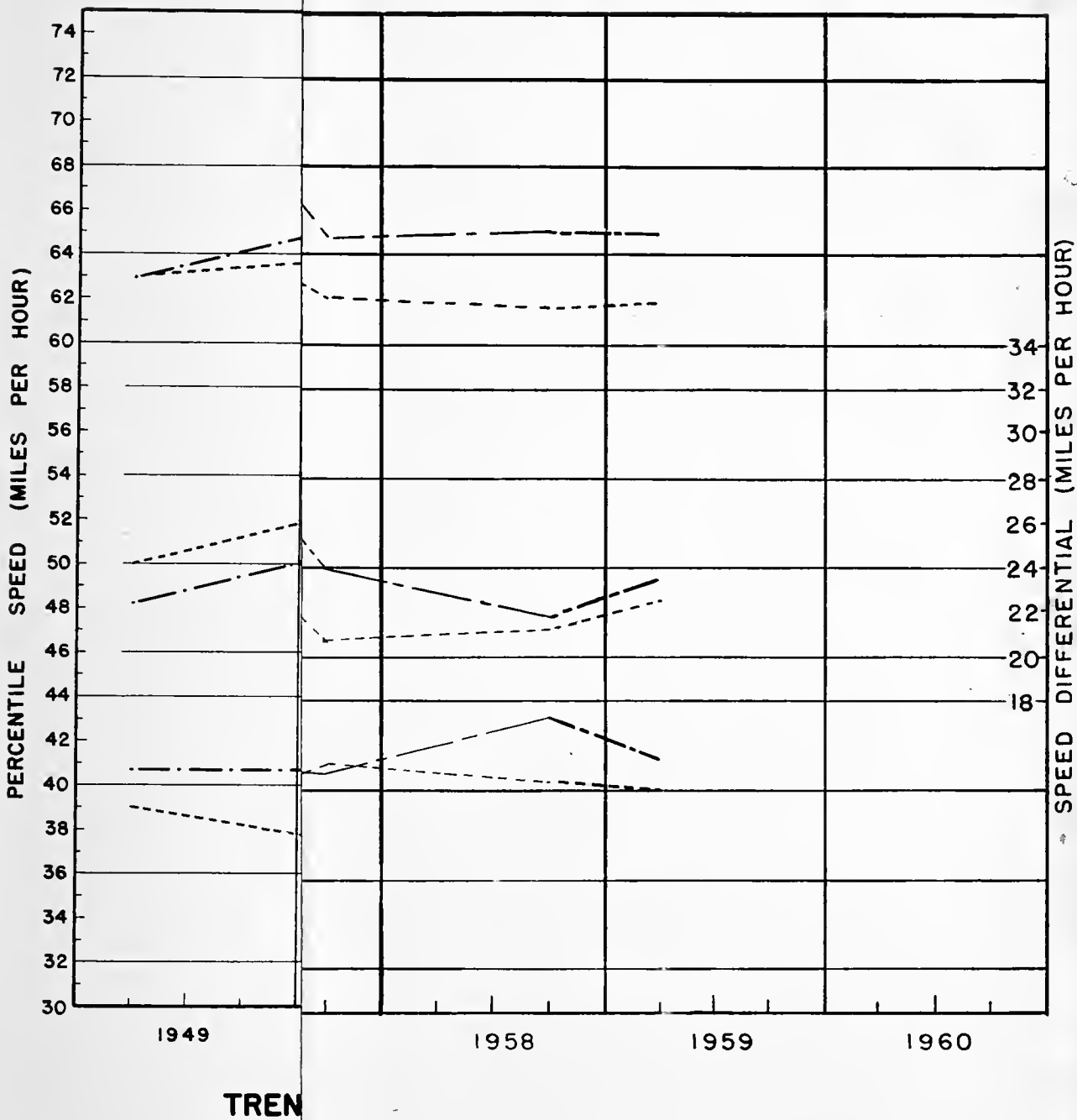
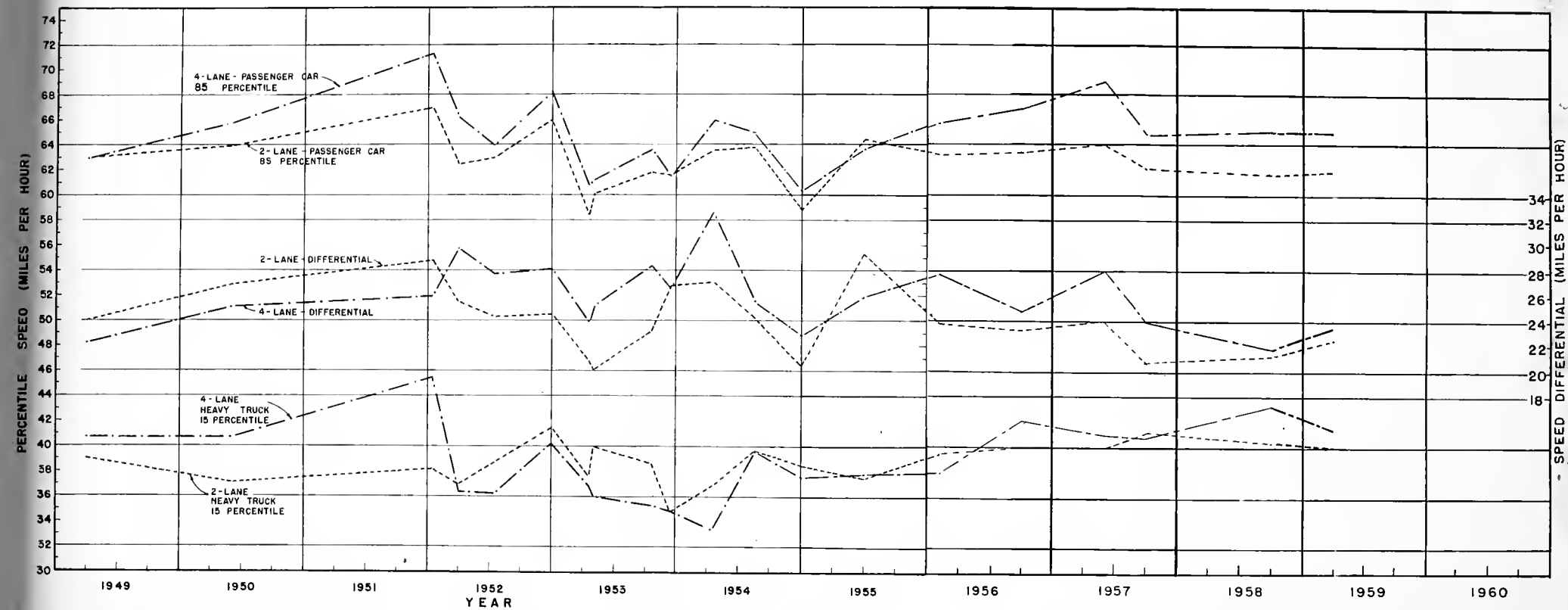


FIG. 8





TRENDS IN PERCENTILE SPEEDS AND SPEED DIFFERENTIAL 1949—1960

FIG. 8







